

I Claim:

1. An antenna system comprising:

an antenna element for transmitting and receiving signals at radio frequencies;

an antenna connector for establishing a signal connection between the antenna element

5 and a radio component;

an electronic serialization component for indicating at least one predetermined antenna characteristic, and adapted to read out the predetermined antenna characteristics through the antenna connector to the radio component;

10 2. The antenna system of claim 1 wherein the predetermined antenna characteristics are selected from a group including at least one of: antenna gain, operational frequency band, product model number and type of connection.

3. The antenna system of claim 1 wherein the electronic serialization component
15 comprises a circuit, wherein the predetermined antenna characteristics are coded into the circuit.

4. The antenna system of claim 3 wherein the circuit comprises a semiconductor memory chip.

5. The antenna system of claim 3 wherein the circuit comprises a threshold detection
20 circuit for detecting a predetermined voltage threshold, corresponding to a predetermined antenna gain.

6. The antenna system of claim 1 wherein the antenna element comprises a plurality of antenna elements in an antenna array.

7. A wireless communication device comprising:

5 a radio component for exchanging wired electronic signals with wireless signals;

an antenna system comprising:

an antenna element for respectively transmitting and receiving at radio frequencies the wireless signals exchanged with the radio component;

10 an antenna connector for establishing a signal connection between the antenna and the radio component;

an electronic serialization component for indicating predetermined antenna characteristics, and adapted to read out the predetermined antenna characteristics through the antenna connector to the radio component.

15 8. The wireless communication device of claim 7 wherein the predetermined antenna characteristics are selected from a group including at least one of: antenna gain, operational frequency band, product model number and type of connection.

9. The wireless communication device of claim 7 wherein the electronic serialization
20 component comprises a circuit, wherein the predetermined antenna characteristics are coded into the circuit.

10. The wireless communication device of claim 7 wherein the circuit comprises a semiconductor memory chip.

11. The wireless communication device of claim 7 wherein the circuit comprises a threshold detection circuit for detecting a predetermined voltage threshold, corresponding to a predetermined antenna gain.

12. The wireless communication device of claim 7 wherein the antenna element comprises a plurality of antenna elements in an antenna array.

13. The wireless communications device of claim 7 wherein the antenna system is an integrally mounted antenna system.

14. The wireless communications device of claim 7 wherein the antenna system is an externally mounted antenna system.

15. The wireless communications device of claim 7 wherein the radio component comprises at least one algorithm for varying at least one operational parameter in response to the predetermined antenna characteristics.

16. The wireless communications device of claim 15 wherein the predetermined antenna characteristics comprise antenna gain, and wherein the radio component algorithm sets antenna power so as to maintain antenna gain.

17. The wireless communications device of claim 7 wherein the radio component and antenna system are included in at least one of a wireless access point and bridge for use with wireless local area network.

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18. A method of antenna operation comprising:
receiving an identification stream from an antenna serialization component;
processing the identification stream so as to identify at least one predetermined antenna characteristics;
varying at least one operational parameters of a radio component in response to the at least one predetermined antenna characteristic.

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19. The method of claim 18 wherein the steps of processing and varying are implemented by an algorithm within the radio component.

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20. The method of claim 18 wherein the at least one predetermined antenna characteristic comprises a predetermined antenna gain and the at least one operational parameter respectively comprises a predetermined radio component maximum output power level corresponding to the predetermined antenna gain.

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21. The method of claim 18 wherein the at least one predetermined antenna characteristic comprises a predetermined radio component operational frequency range.

22. The method of claim 18 wherein the at least one predetermined antenna characteristic comprises a predetermined antenna component number, and wherein the at least one operational parameter respectively comprises a command to disable the radio component if the predetermined antenna component number is not indicated.

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23. The method of claim 18 further comprising a step of reading predetermined antenna characteristics over a network by a network administrator in a remote location.

24. The method of claim 18 further comprising a step of reprogramming the
10 predetermined antenna characteristics in a serialization component via a network.

25. A computer usable medium having computer readable program code embodied therein for effecting the radio component operation, the computer readable program code in a computer program product comprising:

15 instructions for receiving an identification stream from an antenna serialization component;

instructions for processing the identification stream so as to identify at least one predetermined antenna characteristics;

instructions for varying at least one operational parameters of a radio component in
20 response to the at least one predetermined antenna characteristic.

26. The computer program product of claim 25 wherein the instructions for processing and varying are implemented by an algorithm within the radio component.

27. The computer program product of claim 25 wherein the at least one predetermined antenna characteristic comprises a predetermined antenna gain and the at least one operational parameter respectively comprises a predetermined radio component power output level corresponding to the predetermined antenna gain.

28. The computer program product of claim 25 wherein the at least one predetermined antenna characteristic comprises a predetermined radio component operational frequency range.

29. The computer program product of claim 25 wherein the at least one predetermined antenna characteristic comprises a predetermined antenna component number, and wherein the at least one operational parameter respectively comprises a command to disable the radio component if the predetermined antenna component number is not indicated.

30. The computer program product of claim 25 further comprising instructions for reading predetermined antenna characteristics over a network by a network administrator in a remote location.

31. The computer program product of claim 25 further comprising instructions for reprogramming the predetermined antenna characteristics in a serialization component via a network.